# FIG. 1

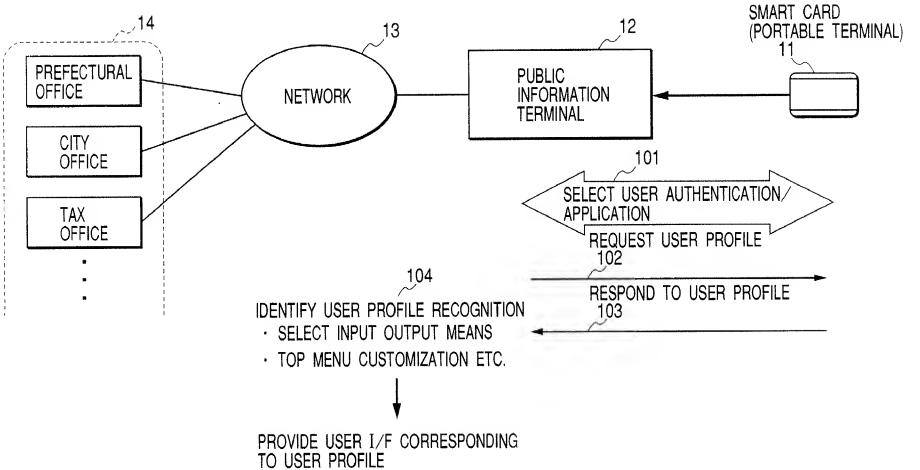
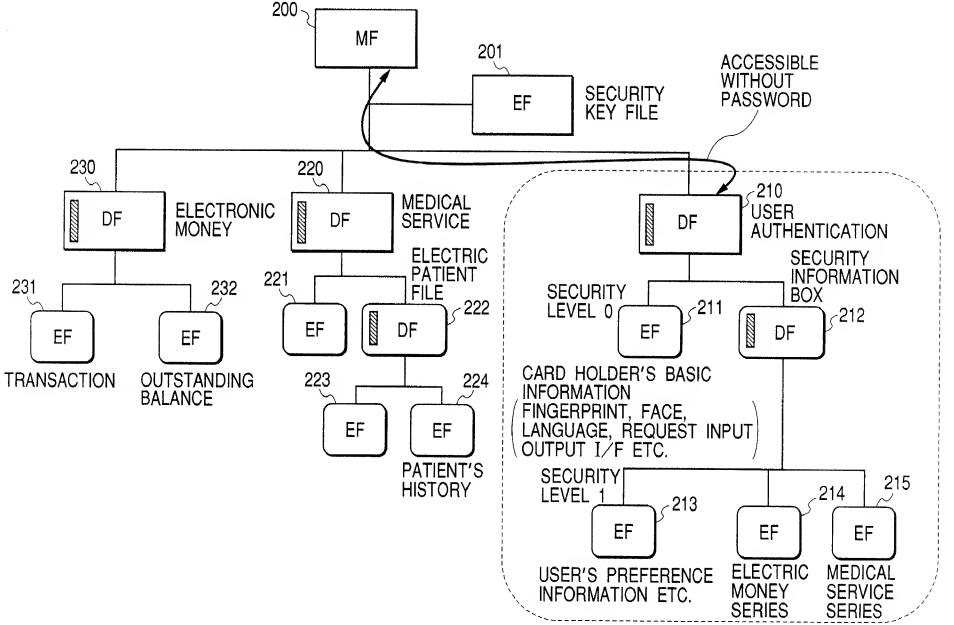

14
PREFECTURAL OFFICE
CITY OFFICE
TAX OFFICE
13
NETWORK
12
PUBLIC INFORMATION TERMINAL
SMART CARD (PORTABLE TERMINAL)
11
101
SELECT USER AUTHENTICATION/ APPLICATION
REQUEST USER PROFILE
102
RESPOND TO USER PROFILE
103
104
IDENTIFY USER PROFILE RECOGNITION
· SELECT INPUT OUTPUT MEANS
· TOP MENU CUSTOMIZATION ETC.
PROVIDE USER I/F CORRESPONDING TO USER PROFILE

FIG. 2


200
MF
201
EF
SECURITY KEY FILE
ACCESSIBLE WITHOUT PASSWORD
230
DF
ELECTRONIC MONEY
220
DF
MEDICAL SERVICE
210
DF
USER AUTHENTICATION
231
EF
TRANSACTION
232
EF
OUTSTANDING BALANCE
221
EF
ELECTRIC PATIENT FILE
222
DF
223
EF
224
EF
PATIENT'S HISTORY
SECURITY INFORMATION BOX
SECURITY LEVEL 0
211
EF
212
DF
CARD HOLDER'S BASIC INFORMATION
(FINGERPRINT, FACE, LANGUAGE, REQUEST INPUT OUTPUT I/F ETC.)
SECURITY LEVEL 1
213
EF
USER'S PREFERENCE INFORMATION ETC.
214
EF
ELECTRIC MONEY SERIES
215
EF
MEDICAL SERVICE SERIES

# FIG. 3

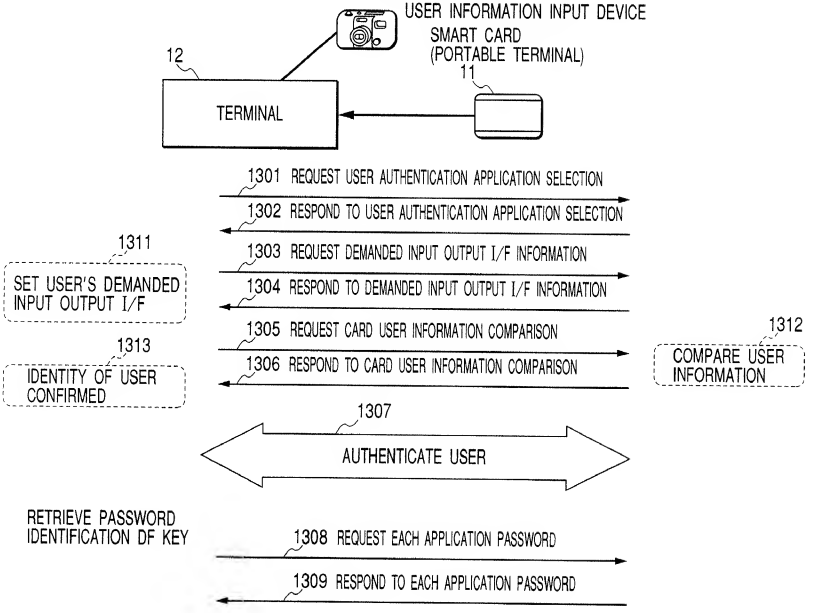

USER INFORMATION INPUT DEVICE
SMART CARD
(PORTABLE TERMINAL)
11
12
TERMINAL
1301 REQUEST USER AUTHENTICATION APPLICATION SELECTION
1302 RESPOND TO USER AUTHENTICATION APPLICATION SELECTION
1311
SET USER'S DEMANDED INPUT OUTPUT I/F
1303 REQUEST DEMANDED INPUT OUTPUT I/F INFORMATION
1304 RESPOND TO DEMANDED INPUT OUTPUT I/F INFORMATION
1305 REQUEST CARD USER INFORMATION COMPARISON
1312
COMPARE USER INFORMATION
1313
IDENTITY OF USER CONFIRMED
1306 RESPOND TO CARD USER INFORMATION COMPARISON
1307
AUTHENTICATE USER
RETRIEVE PASSWORD IDENTIFICATION DF KEY
1308 REQUEST EACH APPLICATION PASSWORD
1309 RESPOND TO EACH APPLICATION PASSWORD

FIG. 4

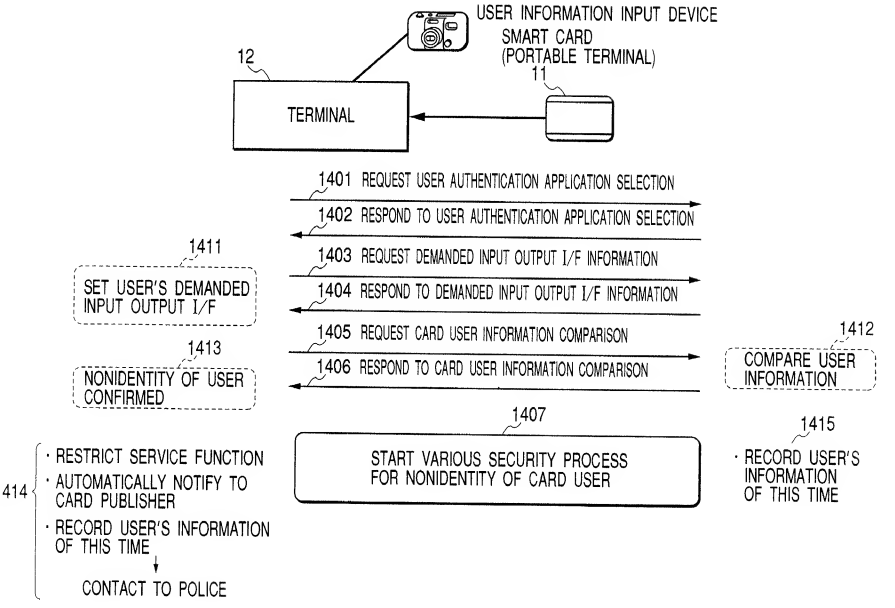

USER INFORMATION INPUT DEVICE
SMART CARD
(PORTABLE TERMINAL)
12
11
TERMINAL
1401 REQUEST USER AUTHENTICATION APPLICATION SELECTION
1402 RESPOND TO USER AUTHENTICATION APPLICATION SELECTION
1411
SET USER'S DEMANDED INPUT OUTPUT I/F
1403 REQUEST DEMANDED INPUT OUTPUT I/F INFORMATION
1404 RESPOND TO DEMANDED INPUT OUTPUT I/F INFORMATION
1412
COMPARE USER INFORMATION
1413
NONIDENTITY OF USER CONFIRMED
1405 REQUEST CARD USER INFORMATION COMPARISON
1406 RESPOND TO CARD USER INFORMATION COMPARISON
1407
START VARIOUS SECURITY PROCESS FOR NONIDENTITY OF CARD USER
1415
· RECORD USER'S INFORMATION OF THIS TIME
1414
· RESTRICT SERVICE FUNCTION
· AUTOMATICALLY NOTIFY TO CARD PUBLISHER
· RECORD USER'S INFORMATION OF THIS TIME
CONTACT TO POLICE

FIG. 5

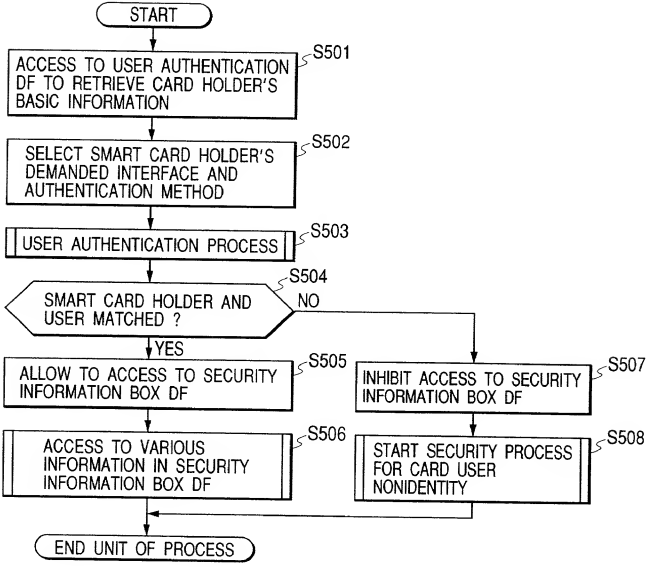

START
ACCESS TO USER AUTHENTICATION DF TO RETRIEVE CARD HOLDER'S BASIC INFORMATION
S501
SELECT SMART CARD HOLDER'S DEMANDED INTERFACE AND AUTHENTICATION METHOD
S502
USER AUTHENTICATION PROCESS
S503
SMART CARD HOLDER AND USER MATCHED ?
S504
NO
YES
ALLOW TO ACCESS TO SECURITY INFORMATION BOX DF
S505
ACCESS TO VARIOUS INFORMATION IN SECURITY INFORMATION BOX DF
S506
INHIBIT ACCESS TO SECURITY INFORMATION BOX DF
S507
START SECURITY PROCESS FOR CARD USER NONIDENTITY
S508
END UNIT OF PROCESS

FIG. 6

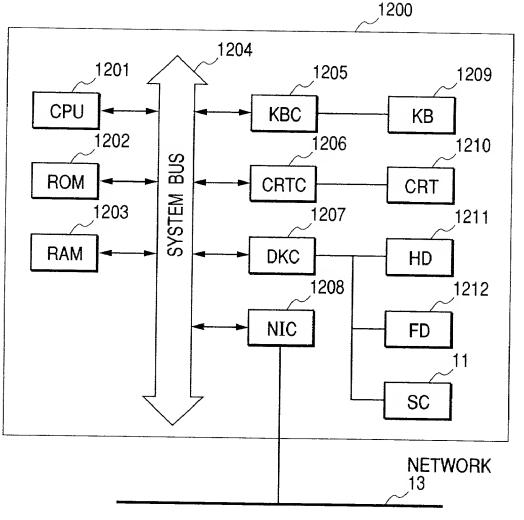

1200
1204
1201
1205
1209
CPU
KBC
KB
1202
1206
1210
ROM
CRTC
CRT
1203
1207
1211
RAM
DKC
HD
1208
1212
NIC
FD
11
SC
SYSTEM BUS
NETWORK
13

FIG. 7

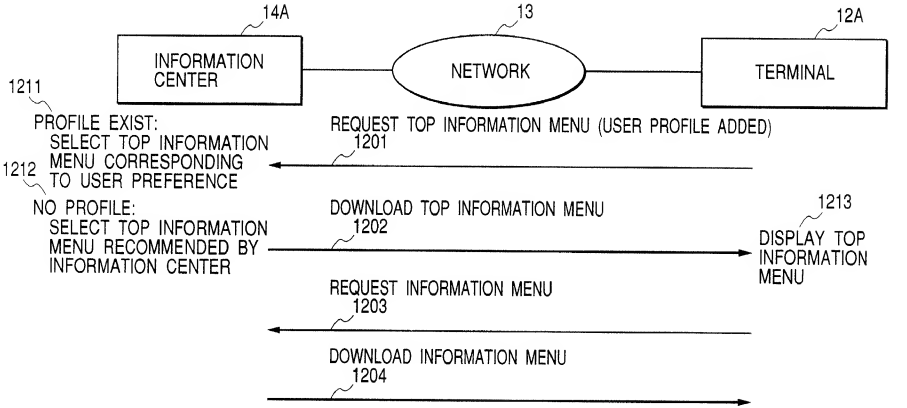

14A
13
12A
INFORMATION CENTER
NETWORK
TERMINAL
1211
PROFILE EXIST:
SELECT TOP INFORMATION MENU CORRESPONDING TO USER PREFERENCE
1212
NO PROFILE:
SELECT TOP INFORMATION MENU RECOMMENDED BY INFORMATION CENTER
REQUEST TOP INFORMATION MENU (USER PROFILE ADDED)
1201
DOWNLOAD TOP INFORMATION MENU
1202
1213
DISPLAY TOP INFORMATION MENU
REQUEST INFORMATION MENU
1203
DOWNLOAD INFORMATION MENU
1204

FIG. 8

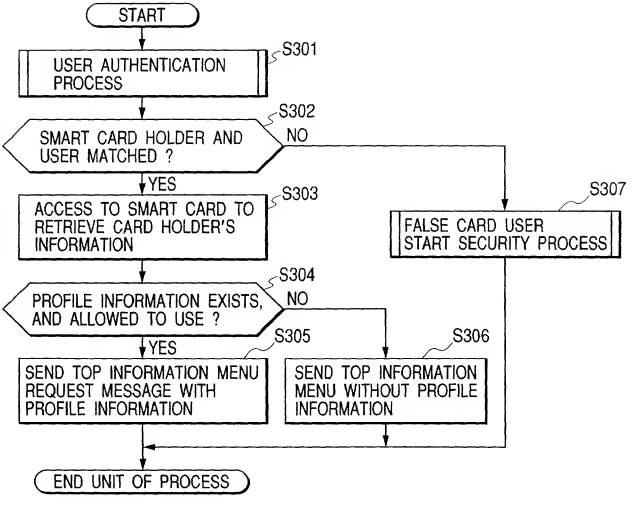

START
USER AUTHENTICATION PROCESS
S301
SMART CARD HOLDER AND USER MATCHED ?
S302
NO
YES
ACCESS TO SMART CARD TO RETRIEVE CARD HOLDER'S INFORMATION
S303
FALSE CARD USER START SECURITY PROCESS
S307
PROFILE INFORMATION EXISTS, AND ALLOWED TO USE ?
S304
NO
YES
SEND TOP INFORMATION MENU REQUEST MESSAGE WITH PROFILE INFORMATION
S305
SEND TOP INFORMATION MENU WITHOUT PROFILE INFORMATION
S306
END UNIT OF PROCESS

FIG. 9

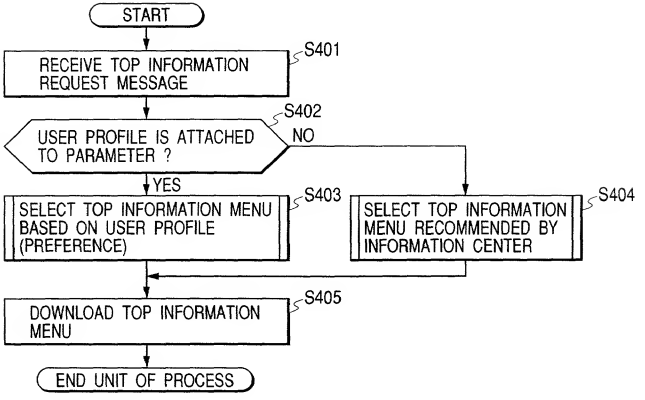
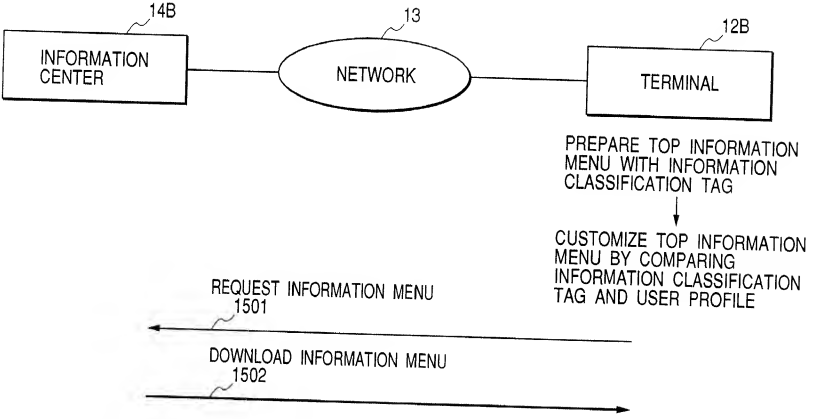

START
RECEIVE TOP INFORMATION REQUEST MESSAGE
S401
USER PROFILE IS ATTACHED TO PARAMETER ?
S402
NO
YES
SELECT TOP INFORMATION MENU BASED ON USER PROFILE (PREFERENCE)
S403
SELECT TOP INFORMATION MENU RECOMMENDED BY INFORMATION CENTER
S404
DOWNLOAD TOP INFORMATION MENU
S405
END UNIT OF PROCESS

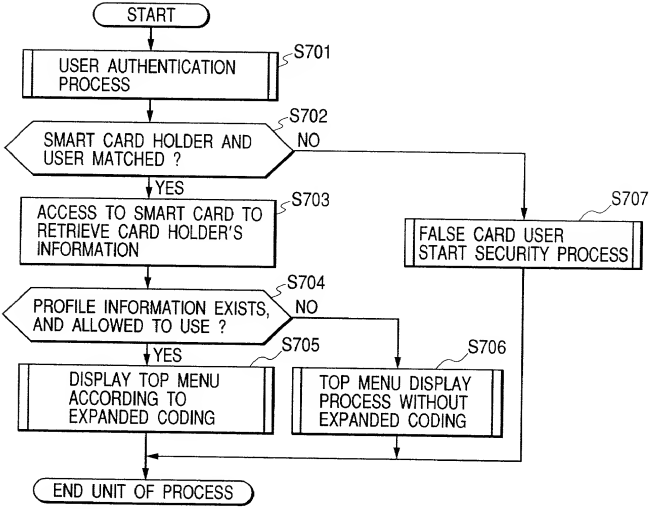
FIG. 10


14B
INFORMATION CENTER
13
NETWORK
12B
TERMINAL
PREPARE TOP INFORMATION MENU WITH INFORMATION CLASSIFICATION TAG
CUSTOMIZE TOP INFORMATION MENU BY COMPARING INFORMATION CLASSIFICATION TAG AND USER PROFILE
REQUEST INFORMATION MENU
1501
DOWNLOAD INFORMATION MENU
1502

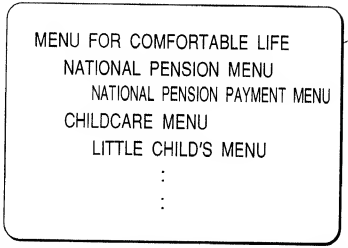
# FIG. 11

```
<UL>
<LI>MENU FOR COMFORTABLE LIFE
                                        <!--.....DISPLAY TITLE OF TOP INFORMATION MENU-->
<UL>
1601 <LI><Not Carrier=employ>NATIONAL PENSION MENU</Not>
                                        <!--.....DESIGNATE SCREEN WHEN USER IS NOT EMPLOYEE-->
<UL>
1602 <UI><Only Age=65over><A HREF="xx.html">NATIONAL PENSION ENTITLEMENT MENU</A><Only>
                                        <!--.....DESIGNATE SCREEN WHEN USER IS MORE THAN 65 YEARS OLD-->
1603 <UI><Only Carrier=Free or No><A HREF="xy.html">NATIONAL PENSION PAYMENT MENU</A><Only>
                                        <!--.....DESIGNATE SCREEN WHEN USER IS FREELANCER OR A MAN OF REGULAR OCCUPANCY-->
1604 <UI><Only Age=20over And Carrier=Student><A HREF="xz.html">TO STUDENT OF MORE THAN 20 YEARS OLD</A><Only>
                                        <!--.....DESIGNATE SCREEN WHEN USER IS STUDENT OF MORE THAN 20 YEARS OLD-->
</UL>
1605 <LI><Only Child=1 over>CHILDCARE MENU</Only>
                                        <!--.....DESIGNATE SCREEN WHEN USER HAS CHILD-->
<UL>
1606 <LI><Only Child Age=3 under><A HREF="yx.html">BABY'S MENU</A></Only>
                                        <!--.....DESIGNATE SCREEN WHEN USER HAS CHILD OF LESS THAN 3 YEARS OLD-->
1607 <LI><Only Child Age=6 under 4 over><A HREF="yy.html">LITTLE CHILD'S MENU</A></Only>
                                        <!--.....DESIGNATE SCREEN WHEN USER HAS CHILD OF 4-6 YEARS OLD-->
                                        :
```

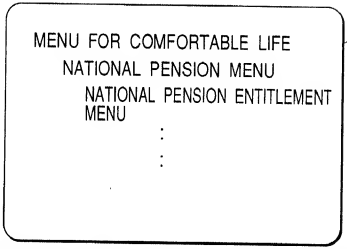
FIG. 12


START
USER AUTHENTICATION PROCESS
S701
SMART CARD HOLDER AND USER MATCHED ?
S702
NO
YES
ACCESS TO SMART CARD TO RETRIEVE CARD HOLDER'S INFORMATION
S703
FALSE CARD USER START SECURITY PROCESS
S707
PROFILE INFORMATION EXISTS, AND ALLOWED TO USE ?
S704
NO
YES
DISPLAY TOP MENU ACCORDING TO EXPANDED CODING
S705
TOP MENU DISPLAY PROCESS WITHOUT EXPANDED CODING
S706
END UNIT OF PROCESS

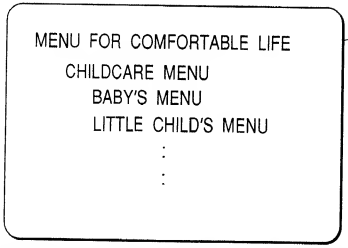
# FIG. 13



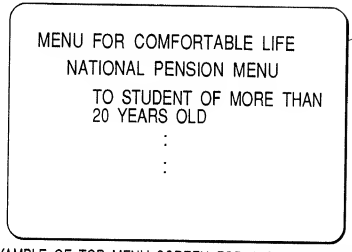

EXAMPLE OF TOP MENU SCREEN FOR A SELF-EMPLOYED WORKER HAVING BABY




EXAMPLE OF TOP MENU SCREEN FOR A MAN OF NO REGULAR OCCUPANCY OF 65 YEARS OLD WHOSE CHILD IS INDEPENDENT

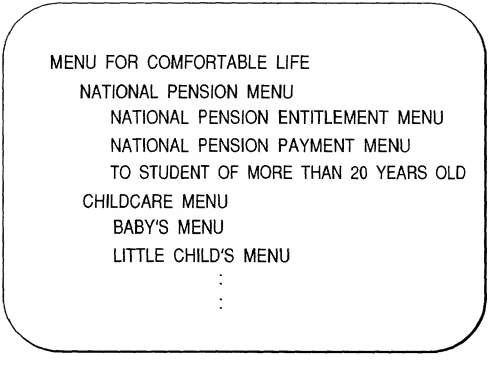



EXAMPLE OF TOP MENU SCREEN FOR A BUSINESSPERSON HAVING BABY OR LITTLE CHILD




EXAMPLE OF TOP MENU SCREEN FOR A STUDENT OF 20 YEARS OLD

FIG. 14




EXAMPLE OF TOP MENU FOR AN USER WHO DOES NOT EXPECT USE OF USER PROFILE

FIG. 15

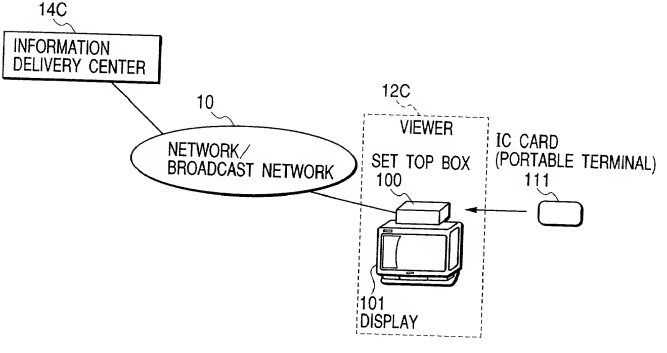

14C
INFORMATION DELIVERY CENTER
10
NETWORK/ BROADCAST NETWORK
12C
VIEWER
SET TOP BOX
100
IC CARD
(PORTABLE TERMINAL)
111
101
DISPLAY

FIG. 16

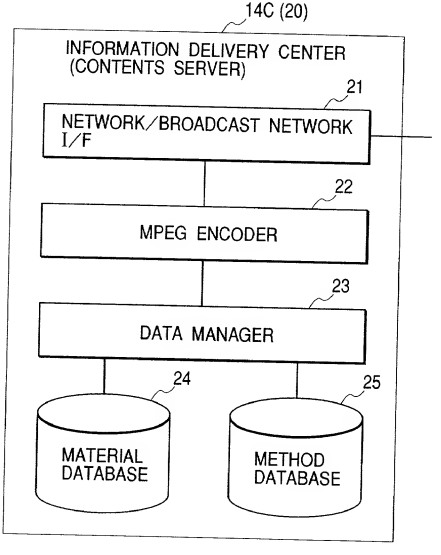

14C (20)
INFORMATION DELIVERY CENTER
(CONTENTS SERVER)
21
NETWORK/BROADCAST NETWORK I/F
22
MPEG ENCODER
23
DATA MANAGER
24
25
MATERIAL DATABASE
METHOD DATABASE

FIG. 17

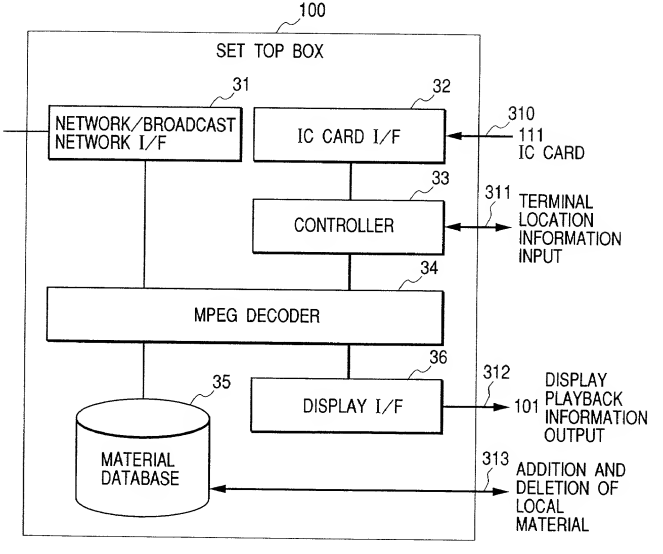

100
SET TOP BOX
31
NETWORK/BROADCAST NETWORK I/F
32
IC CARD I/F
310
111
IC CARD
33
CONTROLLER
311
TERMINAL LOCATION INFORMATION INPUT
34
MPEG DECODER
36
312
DISPLAY I/F
101
DISPLAY PLAYBACK INFORMATION OUTPUT
35
MATERIAL DATABASE
313
ADDITION AND DELETION OF LOCAL MATERIAL

FIG. 18

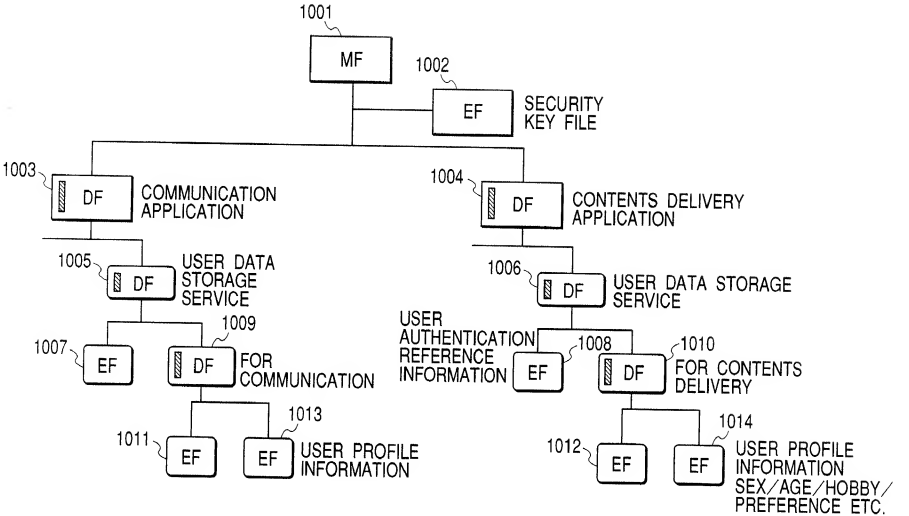

1001
MF
1002
EF
SECURITY KEY FILE
1003
DF
COMMUNICATION APPLICATION
1004
DF
CONTENTS DELIVERY APPLICATION
1005
DF
USER DATA STORAGE SERVICE
1006
DF
USER DATA STORAGE SERVICE
1007
EF
1009
DF
FOR COMMUNICATION
USER AUTHENTICATION REFERENCE INFORMATION
1008
EF
1010
DF
FOR CONTENTS DELIVERY
1011
EF
1013
EF
USER PROFILE INFORMATION
1012
EF
1014
EF
USER PROFILE INFORMATION SEX/AGE/HOBBY/ PREFERENCE ETC.

FIG. 19

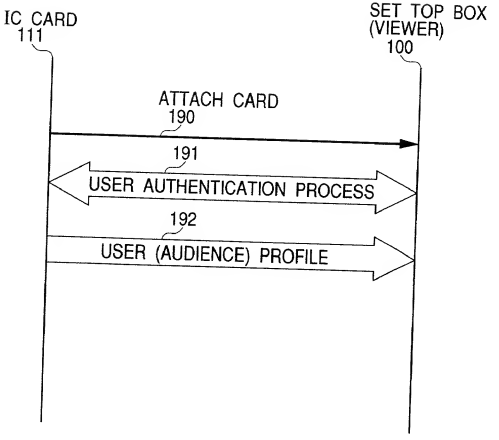

IC CARD
111
SET TOP BOX
(VIEWER)
100
ATTACH CARD
190
191
USER AUTHENTICATION PROCESS
192
USER (AUDIENCE) PROFILE

FIG. 20

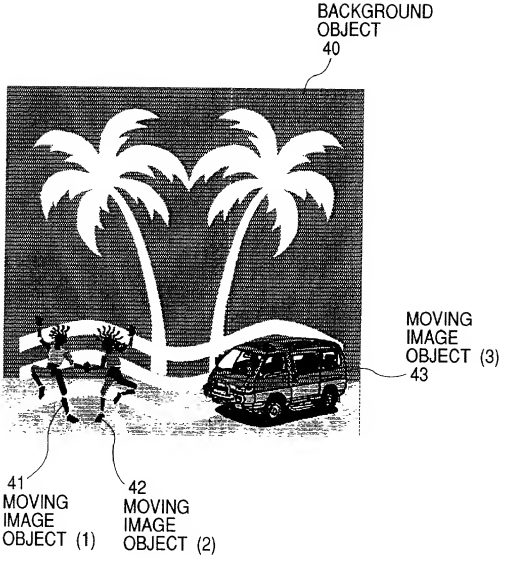

BACKGROUND OBJECT 40
MOVING IMAGE OBJECT (3) 43
41 MOVING IMAGE OBJECT (1)
42 MOVING IMAGE OBJECT (2)

FIG. 21

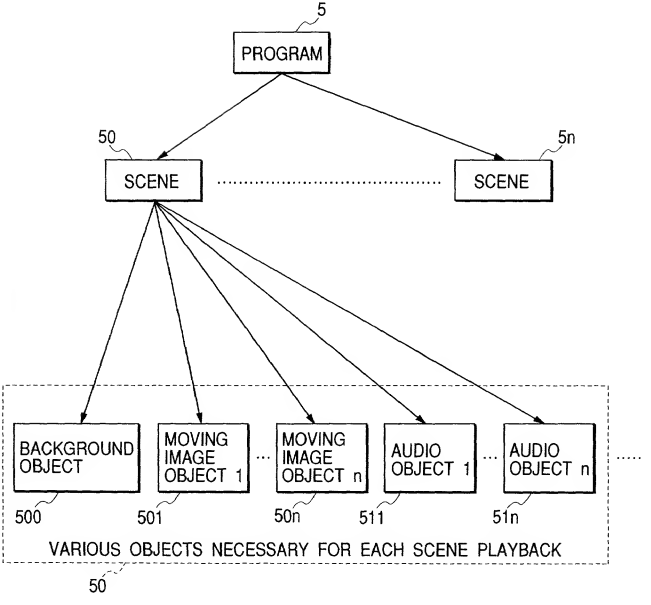

5
PROGRAM
50
SCENE
5n
SCENE
BACKGROUND OBJECT
MOVING IMAGE OBJECT 1
MOVING IMAGE OBJECT n
AUDIO OBJECT 1
AUDIO OBJECT n
500
501
50n
511
51n
VARIOUS OBJECTS NECESSARY FOR EACH SCENE PLAYBACK
50

FIG. 22

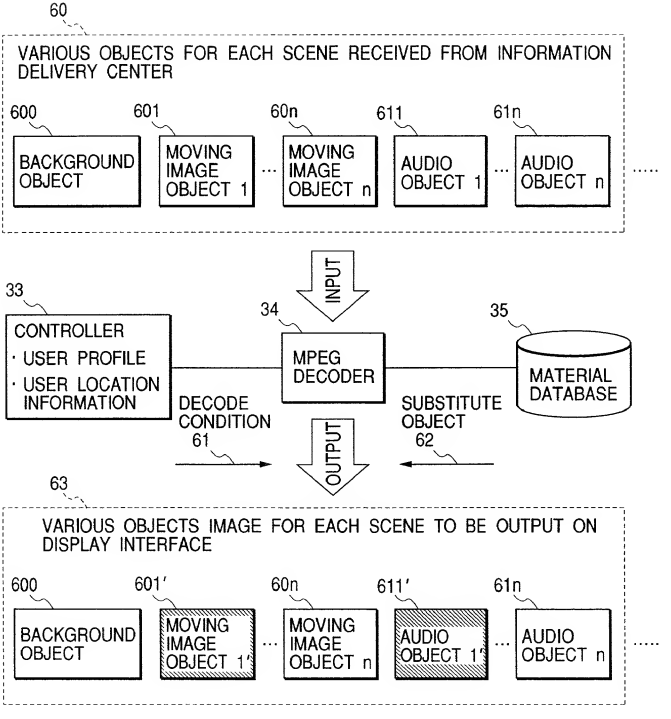

60
VARIOUS OBJECTS FOR EACH SCENE RECEIVED FROM INFORMATION DELIVERY CENTER
600
BACKGROUND OBJECT
601
MOVING IMAGE OBJECT 1
60n
MOVING IMAGE OBJECT n
611
AUDIO OBJECT 1
61n
AUDIO OBJECT n
INPUT
33
CONTROLLER
· USER PROFILE
· USER LOCATION INFORMATION
34
MPEG DECODER
35
MATERIAL DATABASE
DECODE CONDITION 61
SUBSTITUTE OBJECT 62
OUTPUT
63
VARIOUS OBJECTS IMAGE FOR EACH SCENE TO BE OUTPUT ON DISPLAY INTERFACE
600
BACKGROUND OBJECT
601′
MOVING IMAGE OBJECT 1′
60n
MOVING IMAGE OBJECT n
611′
AUDIO OBJECT 1′
61n
AUDIO OBJECT n

FIG. 23

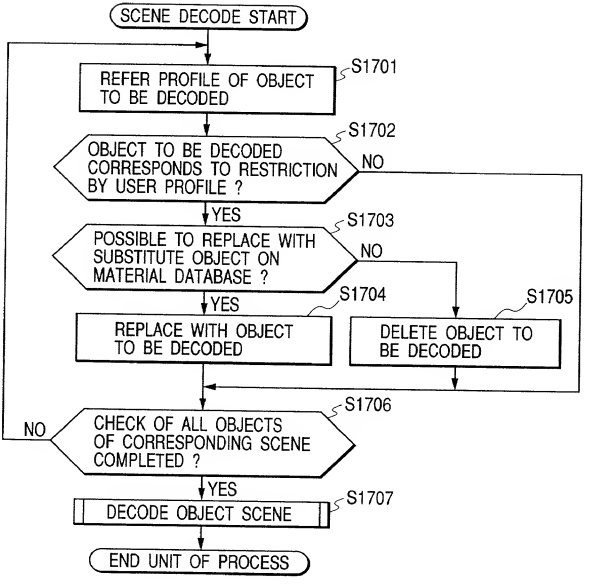

SCENE DECODE START
REFER PROFILE OF OBJECT TO BE DECODED
S1701
OBJECT TO BE DECODED CORRESPONDS TO RESTRICTION BY USER PROFILE ?
S1702
NO
YES
POSSIBLE TO REPLACE WITH SUBSTITUTE OBJECT ON MATERIAL DATABASE ?
S1703
NO
YES
REPLACE WITH OBJECT TO BE DECODED
S1704
DELETE OBJECT TO BE DECODED
S1705
CHECK OF ALL OBJECTS OF CORRESPONDING SCENE COMPLETED ?
S1706
NO
YES
DECODE OBJECT SCENE
S1707
END UNIT OF PROCESS

FIG. 24

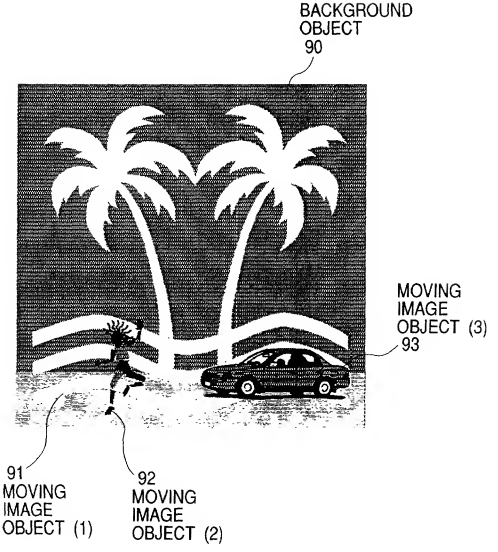



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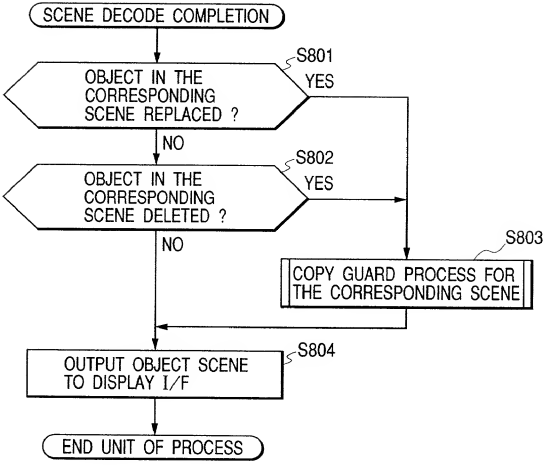
FIG. 25


SCENE DECODE COMPLETION
S801
OBJECT IN THE CORRESPONDING SCENE REPLACED ?
YES
NO
S802
OBJECT IN THE CORRESPONDING SCENE DELETED ?
YES
NO
S803
COPY GUARD PROCESS FOR THE CORRESPONDING SCENE
S804
OUTPUT OBJECT SCENE TO DISPLAY I/F
END UNIT OF PROCESS